a sucrose molecule, wherein said nucleotide sequence comprises a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence of SEQ ID NO:1,

(b) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2,

(c) a nucleotide sequence of SEQ ID NO:3,

(d) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:4,

(e) a nucleotide sequence of SEQ ID NO:5,

I cont.

(f) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:6,

(g) a nucleotide sequence of SEQ ID NO:7,

(h) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:8,

(i) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a leguminous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:9, SEQ ID NO:15, SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, and SEQ ID NO:58 and a PCR primer selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:17, and SEQ ID NO:53, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (a) or (b), in 0.9 M NaCl, 0.09 M citric acid at 65°C,

(j) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a leguminous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:12, SEQ ID NO:19, SEQ ID NO:65, and SEQ ID NO:68 and a PCR primer selected from the group consisting of SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:21, and SEQ ID NO:70, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (c) or (d), in 0.9 M NaCl, 0.09 M citric acid at 65°C,

I' cont.

(k) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a lamiaceous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:71 and SEQ ID NO:73 and a PCR primer selected from the group consisting of SEQ ID NO:72 and SEQ ID NO:74, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (e) or (f), in 0.9 M NaCl, 0.09 M citric acid at 65°C, and

(l) a nucleotide sequence obtainable from a polynucleotide which is amplifiable via the RACE process from a nucleic acid obtained from a monocotyledon with a PCR primer selected from the group consisting of SEQ ID NO:77 and SEQ ID NO:78, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (g) or (h), in 0.9 M NaCl, 0.09 M citric acid at 65°C.

I 2

Claim 4. (Three Times Amended) The isolated nucleic acid according to claim 1, wherein the leguminous plant in (i) is broad bean.

I 3

Claim 7. (Three Times Amended) The isolated nucleic acid according to claim 1, wherein the leguminous plant in (j) is soybean.

I 4

Claim 11. (Three Times Amended) The isolated nucleic acid according to claim 1, wherein the lamiaceous plant in (k) is Japanese artichoke.

I 5

Claim 15. (Three Times Amended) The isolated nucleic acid according to claim 1, wherein the monocotyledon in (l) is a gramineous plant.

I 6

Claim 30. (Five Times Amended) A chimera gene comprising:

a nucleic acid isolated from a plant comprising a nucleotide sequence coding for an amino acid sequence of a protein which produces raffinose by combining a D-galactosyl group through an $\alpha(1\rightarrow6)$ bond with a hydroxyl group attached to the carbon atom at position 6 of a D-glucose residue in a sucrose molecule, wherein

said nucleotide sequence comprises a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence of SEQ ID NO:1,

(b) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2,

(c) a nucleotide sequence of SEQ ID NO:3,

(d) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:4,

(e) a nucleotide sequence of SEQ ID NO:5,

I6 cont.

(f) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:6,

(g) a nucleotide sequence of SEQ ID NO:7,

(h) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:8,

(i) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a leguminous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:9, SEQ ID NO:15, SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, and SEQ ID NO:58 and a PCR primer selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:17, and SEQ ID NO:53, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (a) or (b), in 0.9 M NaCl, 0.09 M citric acid at 65°C,

(j) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a leguminous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:12, SEQ ID NO:19, SEQ ID NO:65, and SEQ ID NO:68 and a PCR primer selected from the group consisting of SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:21, and SEQ ID NO:70, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (c) or (d), in 0.9 M NaCl, 0.09 M citric acid at 65°C,

(k) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a lamiaceous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:71 and SEQ ID NO:73 and a PCR primer selected from the group consisting of SEQ ID NO:72 and SEQ ID NO:74, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (e) or (f), in 0.9 M NaCl, 0.09 M citric acid at 65°C, and

I6 cont.

(l) a nucleotide sequence obtainable from a polynucleotide which is amplifiable via the RACE process from a nucleic acid obtained from a monocotyledon with a PCR primer selected from the group consisting of SEQ ID NO:77 and SEQ ID NO:78, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (g) or (h), in 0.9 M NaCl, 0.09 M citric acid at 65°C, and a promoter linked thereto.

Claim 32. (Five Times Amended) A plasmid comprising a nucleic acid isolated from a plant comprising a nucleotide sequence coding for an amino acid sequence of a protein which produces raffinose by combining a D-galactosyl group through an $\alpha(1\rightarrow6)$ bond with a hydroxyl group attached to the carbon atom at position 6 of a D-glucose residue in a sucrose molecule, wherein said nucleotide sequence comprises a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence of SEQ ID NO:1,

I7

(b) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2,

(c) a nucleotide sequence of SEQ ID NO:3,

(d) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:4,

(e) a nucleotide sequence of SEQ ID NO:5,

(f) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:6,

(g) a nucleotide sequence of SEQ ID NO:7,

(h) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:8,

(i) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a leguminous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:9, SEQ ID NO:15, SEQ ID NO:55, SEQ ID NO:56,

SEQ ID NO:57, and SEQ ID NO:58 and a PCR primer selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:17, and SEQ ID NO:53, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (a) or (b), in 0.9 M NaCl, 0.09 M citric acid at 65°C,

(j) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a leguminous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:12, SEQ ID NO:19, SEQ ID NO:65, and SEQ ID NO:68 and a PCR primer selected from the group consisting of SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:21, and SEQ ID NO:70, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (c) or (d), in 0.9 M NaCl, 0.09 M citric acid at 65°C,

I 7 cont.

(k) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a lamiaceous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:71 and SEQ ID NO:73 and a PCR primer selected from the group consisting of SEQ ID NO:72 and SEQ ID NO:74, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (e) or (f), in 0.9 M NaCl, 0.09 M citric acid at 65°C, and

(l) a nucleotide sequence obtainable from a polynucleotide which is amplifiable via the RACE process from a nucleic acid

I 7 cont. obtained from a monocotyledon with a PCR primer selected from the group consisting of SEQ ID NO:77 and SEQ ID NO:78, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (g) or (h), in 0.9 M NaCl, 0.09 M citric acid at 65°C.

Claim 36. (Five Times Amended) A method for metabolic modification, which comprises introducing a nucleic acid isolated from a plant comprising a nucleotide sequence coding for an amino acid sequence of a protein which produces raffinose by combining a

I 8 D-galactosyl group through an α(1→6) bond with a hydroxyl group attached to the carbon atom at position 6 of a D-glucose residue in a sucrose molecule, wherein said nucleotide sequence comprises a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence of SEQ ID NO:1,

(b) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2,

(c) a nucleotide sequence of SEQ ID NO:3,

(d) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:4,

(e) a nucleotide sequence of SEQ ID NO:5,

(f) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:6,

(g) a nucleotide sequence of SEQ ID NO:7,

(h) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:8,

(i) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a leguminous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:9, SEQ ID NO:15, SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, and SEQ ID NO:58 and a PCR primer selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:17, and SEQ ID NO:53, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (a) or (b), in 0.9 M NaCl, 0.09 M citric acid at 65°C,

I8 cont.

(j) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a leguminous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:12, SEQ ID NO:19, SEQ ID NO:65, and SEQ ID NO:68 and a PCR primer selected from the group consisting of SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:21, and SEQ ID NO:70, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (c) or (d), in 0.9 M NaCl, 0.09 M citric acid at 65°C,

(k) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a lamiaceous plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO:71 and SEQ ID NO:73 and a PCR primer

selected from the group consisting of SEQ ID NO:72 and SEQ ID NO:74, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (e) or (f), in 0.9 M NaCl, 0.09 M citric acid at 65°C, and

(l) a nucleotide sequence obtainable from a polynucleotide which is amplifiable via the RACE process from a nucleic acid obtained from a monocotyledon with a PCR primer selected from the group consisting of SEQ ID NO:77 and SEQ ID NO:78, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (g) or (h), in 0.9 M NaCl, 0.09 M citric acid at 65°C, into a host organism or a cell thereof, so that the content of raffinose family oligosaccharides in the host organism or the cell thereof is changed.

I8 cont.

Claim 40. (Three Times Amended) An isolated nucleic acid comprising (i) a polynucleotide having a sequence that encodes a protein having an amino acid sequence selected from the group consisting of SEQ ID NOs:2, 4, 6, or 8 or (ii) a polynucleotide having a sequence complementary to said sequence.

I9

Claim 41. (Three Times Amended) An isolated nucleic acid comprising (i) a polynucleotide having a nucleotide sequence selected from the group consisting of SEQ ID NOs:1, 3, 5, or 7 or

I 9 cont. (ii) a polynucleotide having a sequence complementary to said sequence.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.